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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/760,883	01/17/2001	Hiroyuki Shibata	23.1093	4981

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STAAS & HALSEY LLP  
700 11TH STREET, NW  
SUITE 500  
WASHINGTON, DC 20001

EXAMINER

KOVALICK, VINCENT E

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 05/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/760,883

Applicant(s)

SHIBATA ET AL.

Examiner

Vincent E Kovalick

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 3/11/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8-10,12-15,17-19,21-23,25-28 and 30-39 is/are rejected.
- 7) ☒ Claim(s) 3,7,11,16,20,24 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office Action is in response to Applicant's Amendment dated March 11, 2003 in response to USPTO Office Action dated November 4, 2002. The amendments to claims 1-3, 5-7, 9, 11, 13-16, 18-20, 22-23 and 26; the addition of new claims 27-39 and Applicant's remarks have been noted and entered in the record.

Applicant's arguments filed March 11, 2003 have been fully considered but they are not persuasive. Relative to the argument that Kuwajima et al. (USP 6,339,422) "does not teach a clock signal used to drive a display panel is continuously varied in a frequency of the clock signal"; Kuwajima et al. teaches a variable frequency control circuit sets and outputs a frequency of an operating clock signal to be provided to the display circuit, the output waveform to the display being controlled by a switching circuit (col. 4, lines 53-58). As the clock signal is varied between as least two frequencies this causes the peak noise output of the display panel to be reduced; further as the clock signal is varied between at least two different frequencies the corresponding waveform will be reflective of the specific one of the two different drive frequencies and in turn drive the display in accordance with the frequency varying clock signal.

Regarding applicant's argument that Tanaka et al. (USP 6,130,420) does not teach the clock signal being used to drive the display panel is performed during a quiescent period; Tanaka et al. teaches a clock signal being used to drive the display panel, it being understood that one of the operating modes will be a quiescent period.

***Drawing Corrections***

2. The corrections to drawing Figures 1-3, submitted March 11, 2003, are approved by the Examiner.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1-2, 6, 10, 14-15, 19, 23, 27, 32, 33-37 and 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwajima et al. (USP 6,339,422).

Relative to claims 1, 6, 10, 14, 19, 23, 27, 32, 33-36 and 38-39, Kuwajima et al. **teaches** a display control circuit and display control method (col. 2, lines 54-67 and col. 3, lines 1-62 and Fig. 2). Kuwajima et al. further **teaches** a display apparatus comprising a clock generating circuit, a drive waveform generating circuit for generating a drive waveform by using a clock from said clock generating circuit, and a display panel for displaying an image in accordance with said drive waveform, wherein: said clock generating circuit generates a clock whose frequency varies continuously, and said drive waveform generating circuit drives and display panel by outputting a drive waveform whose frequency varies in accordance with said frequency varying clock (col. 4, lines 53-59). Still further, Kuwajima et al. **teaches** said display apparatus comprising a clock generating circuit, a drive waveform generating circuit for generating drive waveform by using a clock from said clock generating circuit, and a display panel for displaying an image in accordance with said drive waveform, wherein: said drive waveform generating circuit drives said display panel by sequentially switching an output drive waveform between

Art Unit: 2673

drive waveforms corresponding to at least two frequencies (col. 4, lines 53-59). It would have been obvious to a person of ordinary skill in the art at the time of the invention that as the clock signal is varied between at least two frequencies this causes the peak noise output of the display panel to be reduced; further as the clock signal is varied between at least two different frequencies the corresponding waveform will be reflective of the specific one of the two different drive frequencies and in turn drive the display in accordance with the frequency varying clock signal; it would have been further obvious to a person of ordinary skill in the art at the time of the invention that the method step of driving of the display panel spreads out frequencies of noise emitted by the display panel.

The difference between the teaching of the instant invention and the teaching of Kuwajima et al. is that the teaching of the instant invention is related specifically to a display apparatus with reduced noise emission wherein the teaching of Kuwajima et al. is directed to display control circuitry including a variable frequency control circuit.

It would have been obvious to a person of ordinary skill in the art at the time of the invention that the limitation as set forth in claims 1, 6, 10, 14, 19, 23, 27, 34-36 and 38-39 are addressed in the teachings of Kuwajima et al.

Regarding claims 2, 15 and 28, Kuwajima et al. further **teaches** said display apparatus wherein said clock generating circuit generates the source clock of said display apparatus (col. 4, lines 55-57).

Relative to claim 37, Kuwajima et al. **teaches** a clock generating circuit to generate a clock signal based on frequency divider, a frequency multiplier or the like which would include a spread-type clock oscillator.

5. Claims 4, 8, 12, 17, 21, 25 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwajima et al. as applied to claims 1, 6, 10, 14, 19 and 23, respectively in

item 4 hereinabove, and further in view of Admitted Prior Art (Applicant's Disclosure, page 7, lines 1-8 and Applicant's Fig. 1)

Regarding claims 4, 8, 12, 17, 21, 25 and 30, Kuwajima et al. **does not teach** said display apparatus being a plasma display apparatus.

Applicant's Disclosure **teaches** said display apparatus wherein said display apparatus is a plasma display apparatus (Applicant's Disclosure, page 7, lines 1-8).

It would have been obvious to a person of ordinary skill in the art at the time of the invention that the display driving circuitry as described herein would be applicable to a plasma display device.

6. Claims 5, 9, 13, 18, 22, 26 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwajima et al. as applied to claims 1, 6, 10, 14, 19 and 23 respectively in item 4 hereinabove, and further in view of Tanaka et al (USP 6,130,420).

Regarding claims 5, 9, 13, 18, 22, 26 and 31, Kuwajima et al. **does not teach** said display apparatus wherein during a quiescent period, said clock generating circuit performs control of said clock used for driving said display panel.

Tanaka et al. **teaches** an image sensing apparatus and a method for driving said apparatus (col. 1, lines 63-67, col. 2; lines 1-67 and col. 3, lines 1-18). Tanaka et al. further **teaches** said display apparatus wherein during a quiescent period, said clock generating circuit performs control of said clock used for driving said display panel (col. 2, lines 31-34). It being understood that one of the operating modes will be a quiescent period.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the apparatus as taught by Kuwajima et al. the feature as taught by Tanaka et al. in order permit the clock generating circuit to exercise control of the clock used for driving the display panel only during a quiescent period so as to not interfere with other functions being performed relative to the display panel during the non-quiescent periods.

*Allowable Subject Matter*

7. Claims 3, 7, 11, 16, 20, 24 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Relative to claims 3, 7, 11, 16, 20, 24 and 29, the prior art of record **does not teach** said display apparatus wherein said clock generating circuit generates a clock whose frequency varies continuously within a range of plus or minus 1 percent of a reference frequency.

*Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U. S. Patent No.	5,917,461	Sakami et al.
U. S. Patent No.	5,748,165	Kubota et al.
U. S. Patent No.	3,889,225	McKenzie et al.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 2673

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


***Responses***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent E Kovalick whose telephone number is 703 306-3020. The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703 305-4938. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9314 for regular communications and 703 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 306-0377.

  
Vincent E. Kovalick  
May 21, 2003

  
BIPIN SHALWALA  
SUPERVISORY PATENT &  
TECHNOLOGY